

## SEQUENCE LISTING

<110> University of Utah Research Foundation  
 Cognetix, Inc.  
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<120> Linear Gamma-Carboxyglutamate Rich Conotoxins

<130> 2314-224-II

<150> US 60/273,639

<151> 2001-03-07

<160> 196

<170> PatentIn version 3.0

<210> 1

<211> 24

<212> PRT

<213> Conus ammiralis

<220>

<221> PEPTIDE

<222> (1)..(24)

<223> Xaa at residue 1 is Gln or pygro-Glu; Xaa at residues 7, 8 and 9  
 is Glu or gamma-carboxy-Glu; Xaa at residues 13 and 16 is Lys, no  
 r-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<400> 1

Xaa Gly Gln Asp Asp Ser Xaa Xaa Xaa Asp Ser Gln Xaa Val Met Xaa  
 1 5 10 15

His Gly Gln Arg Arg Glu Arg Arg  
 20

<210> 2

<211> 17

<212> PRT

<213> Conus betulinus

<220>

<221> PEPTIDE

<222> (1)..(17)

<223> Xaa at residues 3, 4, 7, 10 and 14 is Glu or gamma-carboxy-Glu; X  
 aa at residue 17 is Pro or hydroxy-Pro

<400> 2

Gly Gly Xaa Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Leu Thr  
 1 5 10 15

Xaa

<210> 3

<211> 17

$\langle 220 \rangle$ 

<222> (1) .. (17)

<400> 3

Xaa

<211> 17

<213> Conus betulinus

&lt;221&gt; PEPTIDE

<223> Xaa at residues 3, 4, 7, 10 and 14 is Glu or gamma-carboxy-Glu; Xaa at residue 17 is Pro or hydroxy-Pro

Asp Gly Xaa Xaa Val Arg Xaa Ala Ala Xaa Thr Leu Asn Xaa Leu Thr  
1 5 10 15

<210> 5

<211> 18

<212> PRT

<213> Conus betulinus

 $\langle 220 \rangle$ 

<221> PEPTIDE

<222> (1) .. (18)

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<223> Xaa at residues 3, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Glu
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<400> 5

Gly Tyr Xaa Asp Asp Arg Xaa Ile Ala Xaa Thr Val Arg Xaa Leu Xaa  
1 5 10 15

Xaa Ala

<210> 6

&lt;211&gt; 17

&lt;212&gt; PRT

<213> Conus betulinus

 $\langle 220 \rangle$ 

<221> PEPTIDE

<222> (1) .. (17)

<223> Xaa at residues 4, 7, 10 and 14 is Glu or gamma-carboxy-Glu; Xaa at residue 17 is Pro or hydroxy-Pro

Gly Gly Gly Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Ile Thr  
1 5 10 15

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<210> 7
<211> 18
<212> PRT
<213> Conus bullatus
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<220>
<221>  PEPTIDE
<222>  (1)..(18)
<223>  Xaa at residue 2 is Pro or hydroxy-Pro; Xaa at residues 3, 7, 10,
      14, 16 and 17 is Glu or gamma-carboxy-Glu; Xaa at residue 5 is T
      yr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho
      -Tyr or nitro-Tyr

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Asn Xaa Xaa Thr Xaa Ile Xaa Ile Val Xaa Ile Ser Arg Xaa Leu Xaa  
1 5 10 15

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<210> 8
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<212> PRT
<213> Conus bullatus
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<220>
<221>  PEPTIDE
<222>  (1)..(20)
<223>  Xaa at residue 2 is Pro or hydroxy-Pro; Xaa at residues 3, 6, 9,
12, 16, 18 and 19 is Glu or gamma-carboxy-Glu; Xaa at residue 5 i
s Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phos
pho-Tyr or nitro-Tyr

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Asn Xaa Xaa Thr Xaa Xaa Asn Leu Xaa Leu Val Xaa Ile Ser Arg Xaa  
1 5 10 15

<210>	9
<211>	19
<212>	PRT
<213>	Conus catus

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<221>  PEPTIDE
<222>  (1)..(19)
<223>  Xaa at residues 3, 4, 8, 11, 15 and 17 is Glu or gamma-carboxy-Glu
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Ser Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Leu  
1 5 10 15

Xaa Arg Asn

<210> 10  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 3, 4, 8, 11, 15 and 17 is Glu or gamma-carboxy-Glu

<400> 10  
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 1 5 10 15

Xaa Arg Asp

<210> 11  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 3, 4, 8, 11, 15 and 17 is Glu or gamma-carboxy-Glu

<400> 11  
 Ser Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Pro  
 1 5 10 15

Xaa Arg Asn

<210> 12  
 <211> 17  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(17)  
 <223> Xaa at residues 2, 3, 7, 10 and 14 is Glu or gamma-carboxy-Glu

<400> 12  
 Ile Xaa Xaa Gly Leu Ile Xaa Asp Leu Xaa Thr Ala Arg Xaa Arg Asp  
 1 5 10 15

Ser

<210> 13  
 <211> 17  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE

<222> (1)..(17)

<223> Xaa at residues 2, 3, 7, 10 and 14 is Glu or gamma-carboxy-Glu

<400> 13

Ile Xaa Xaa Gly Leu Ile Xaa Asp Leu Xaa Ala Ala Arg Xaa Arg Asp  
1 5 10 15

Ser

<210> 14

<211> 29

<212> PRT

<213> Conus catus

<220>

<221> PEPTIDE

<222> (1)..(29)

<223> Xaa at residues 2, 4, 10 and 16 is Glu or gamma-carboxy-Glu; Xaa at residues 3, 9, 25 and 28 is Pro or hydroxy-Pro; Xaa at residue 26 is Trp (D or L) or halo-Trp (D or L)

<220>

<221> PEPTIDE

<222> (1)..(29)

<223> Xaa at residue 29 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<400> 14

Gly Xaa Xaa Xaa Val Gly Ser Ile Xaa Xaa Ala Val Arg Gln Gln Xaa  
1 5 10 15

Cys Ile Arg Asn Asn Asn Asn Arg Xaa Xaa Cys Xaa Xaa  
20 25

<210> 15

<211> 17

<212> PRT

<213> Conus distans

<220>

<221> PEPTIDE

<222> (1)..(17)

<223> Xaa at residues 5, 6, 8 and 12 is Glu or gamma-carboxy-Glu

<400> 15

Thr Ile Thr Ala Xaa Xaa Ala Xaa Arg Thr Ser Xaa Arg Met Ser Ser  
1 5 10 15

Met

<210> 16

<211> 19

<212> PRT

<213> Conus distans

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa at residue 1 is Gln or pyro-Glu; Xaa at residues 2, 7, 8, 10 and 14 is Glu or gamma-carboxy-Glu; Xaa at residues 4 and 6 is Pr

o or hydroxy-Pro

<400> 16

Xaa Xaa Thr Xaa Thr Xaa Xaa Xaa Val Xaa Arg His Thr Xaa Arg Leu  
1 5 10 15  
Lys Ser Met

<210> 17

<211> 15

<212> PRT

<213> Conus episcopatus

<220>

<221> PEPTIDE

<222> (1)..(15)

<223> Xaa at residues 7, 11 and 13 is Glu or gamma-carboxy-Glu; Xaa at residue 14 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<400> 17

Gly Gly Lys Asp Ile Val Xaa Thr Ile Thr Xaa Leu Xaa Xaa Ile  
1 5 10 15

<210> 18

<211> 19

<212> PRT

<213> Conus figulinus

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa at residues 2, 3, 4, 7, 11 and 15 is Glu or gamma-carboxy-Glu

<400> 18

Gly Xaa Xaa Xaa Val Ala Xaa Met Ala Ala Xaa Ile Ala Arg Xaa Asn  
1 5 10 15

Gln Ala Asn

<210> 19

<211> 18

<212> PRT

<213> Conus figulinus

<220>

<221> PEPTIDE

<222> (1)..(18)

<223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr Xaa at residues 3, 7, 10, 14 and 17 is Glu or gamma-carboxy-Glu

<220>

<221> PEPTIDE

<222> (1)..(18)

<223> Xaa at residue 16 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<400> 19

Ser Xaa Xaa Gln Ala Arg Xaa Val Gln Xaa Ala Val Asn Xaa Leu Xaa

1

5

10

15

Xaa Arg

&lt;210&gt; 20

&lt;211&gt; 34

&lt;212&gt; PRT

&lt;213&gt; Conus figulinus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(34)

<223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr Xaa at residues 3, 7, 10, 14 and 17 is Glu or gamma-carboxy-Glu; Xaa at residue 28 is Pro or hydroxy-Pro

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(34)

<223> Xaa at residues 16, 20 and 21 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

&lt;400&gt; 20

Ser Xaa Xaa Gln Ala Arg Xaa Val Gln Xaa Ala Val Asn Xaa Leu Xaa  
1 5 10 15

Xaa Arg Gly Xaa Xaa Ile Ile Met Leu Gly Val Xaa Arg Asp Thr Arg  
20 25 30

Gln Phe

&lt;210&gt; 21

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Conus figulinus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(17)

<223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa at residues 3, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Glu

&lt;400&gt; 21

Xaa Xaa Asp Asp Arg Xaa Ile Ala Xaa Thr Val Arg Xaa Leu Xaa Xaa  
1 5 10 15

Ile

&lt;210&gt; 22

&lt;211&gt; 19

&lt;212&gt; PRT

&lt;213&gt; Conus figulinus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(19)

<223> Xaa at residues 5, 6, 9, 12 and 16 is Glu or gamma-carboxy-Glu

<400> 22

Gly Asn Thr Ala Xaa Xaa Val Arg Xaa Ala Ala Xaa Thr Leu His Xaa  
1 5 10 15

Leu Ser Leu

<210> 23

<211> 23

<212> PRT

<213> Conus figulinus

<220>

<221> PEPTIDE

<222> (1)..(23)

<223> Xaa at residues 8, 12, 15, 19 and 22 is Glu or gamma-carboxy-Glu

<400> 23

Gly Ser Ile Ser Met Gly Phe Xaa His Arg Arg Xaa Ile Ala Xaa Leu  
1 5 10 15

Val Arg Xaa Leu Ala Xaa Ile  
20

<210> 24

<211> 19

<212> PRT

<213> Conus lynceus

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa at residues 2, 3, 4, 7, 11 and 15 is Glu or gamma-carboxy-Glu

<400> 24

Gly Xaa Xaa Xaa Val Ala Xaa Met Ala Ala Xaa Ile Ala Arg Xaa Asn  
1 5 10 15

Ala Ala Asn

<210> 25

<211> 18

<212> PRT

<213> Conus lynceus

<220>

<221> PEPTIDE

<222> (1)..(18)

<223> Xaa at residue 2 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys; Xaa at residues 3, 4, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Glu

<400> 25

Gly Xaa Xaa Xaa Asp Arg Xaa Ile Val Xaa Thr Val Arg Xaa Leu Xaa  
1 5 10 15

Xaa Ile

<210> 26

<211> 19

20250909 14:55:00



<212> PRT  
 <213> Conus lynceus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 2, 3, 4, 7, 11, 15 and 16 is Glu or gamma-carboxy-Glu; Xaa at residue 19 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<400> 26  
 Gly Xaa Xaa Xaa Val Ala Xaa Met Ala Ala Xaa Leu Thr Arg Xaa Xaa  
 1 5 10 15

Ala Val Xaa

<210> 27  
 <211> 24  
 <212> PRT  
 <213> Conus purpurascens

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa at residues 2, 3, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu; Xaa at residues 7 and 19 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa at residue 8 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 27  
 Gly Xaa Xaa Xaa His Ser Xaa Xaa Gln Xaa Cys Leu Arg Xaa Val Arg  
 1 5 10 15  
 Val Asn Xaa Val Gln Gln Xaa Cys  
 20

<210> 28  
 <211> 24  
 <212> PRT  
 <213> Conus purpurascens

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa at residues 2, 3, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu; Xaa at residues 7 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,N,N-trimethyl-Lys

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa at residue 8 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 28  
 Gly Xaa Xaa Xaa His Ser Xaa Xaa Gln Xaa Cys Leu Arg Xaa Val Arg

1

5

10

15

Val Asn Asn Val Gln Gln Xaa Cys  
20

<210> 29  
<211> 24  
<212> PRT  
<213> Conus purpurascens  
<220>  
<221> PEPTIDE  
<222> (1)..(24)  
<223> Xaa at residues 2, 3, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu;  
Xaa at residues 7 and 19 is Lys, nor-Lys, N-methyl-Lys, N,N-di-  
methyl-Lys or N,N,N-trimethyl-Lys

<220>  
<221> PEPTIDE  
<222> (1)..(24)  
<223> Xaa at residue 8 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-  
sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 29  
Gly Xaa Xaa Xaa His Ser Xaa Xaa Gln Xaa Cys Leu Arg Xaa Ile Arg  
1 5 10 15

Val Asn Xaa Val Gln Gln Xaa Cys  
20

<210> 30  
<211> 24  
<212> PRT  
<213> Conus purpurascens  
<220>  
<221> PEPTIDE  
<222> (1)..(24)  
<223> Xaa at residues 2, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu;  
Xaa at residues 19 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Ly-  
s or N,N,N-trimethyl-Lys

<220>  
<221> PEPTIDE  
<222> (1)..(24)  
<223> Xaa at residue 6 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-  
sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 30  
Gly Xaa Ala Xaa His Xaa Ala Phe Gln Xaa Cys Leu Arg Xaa Ile Asn  
1 5 10 15

Val Asn Xaa Val Gln Gln Xaa Cys  
20

<210> 31  
<211> 15  
<212> PRT  
<213> Conus purpurascens

<220>

<221> PEPTIDE  
 <222> (1)..(15)  
 <223> Xaa at residues 3, 4, 7, 10, 13 and 14 is Glu or gamma-carboxy-Glu  
 u

<400> 31  
 Gly Leu Xaa Xaa Asp Ile Xaa Phe Ile Xaa Thr Ile Xaa Xaa Ile  
 1 5 10 15

<210> 32  
 <211> 15  
 <212> PRT  
 <213> Conus stercusmuscarum

<220>  
 <221> PEPTIDE  
 <222> (1)..(15)  
 <223> Xaa at residues 3, 7, 13 and 14 is Glu or gamma-carboxy-Glu; Xaa  
 at residue 11 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or  
 N,N,N-trimethyl-Lys

<400> 32  
 Ile Thr Xaa Thr Asp Ile Xaa Leu Val Met Xaa Leu Xaa Xaa Ile  
 1 5 10 15

<210> 33  
 <211> 20  
 <212> PRT  
 <213> Conus aurisiacus

<220>  
 <221> PEPTIDE  
 <222> (1)..(20)  
 <223> Xaa at residues 2, 4, 11 and 15 is Glu or gamma-carboxy-Glu; Xaa  
 at residue 20 is Lys, nor-Lys, N-methyl-Lys, N,N-dimethyl-Lys or  
 N,N,N-trimethyl-Lys

<400> 33  
 Gly Xaa Asp Xaa Val Ser Gln Met Ser Xaa Xaa Ile Leu Arg Xaa Leu  
 1 5 10 15

Glu Leu Gln Xaa  
 20

<210> 34  
 <211> 31  
 <212> DNA  
 <213> Artificial

<220>  
 <223> oligonucleotide primer

<400> 34  
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31

<210> 35  
 <211> 23  
 <212> DNA  
 <213> Artificial

<220>  
 <223> oligonucleotide primer

<400> 35  
 aagctcgagt aacaacgcag agt 23

<210> 36  
 <211> 432  
 <212> DNA  
 <213> Conus catus

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 ctaggcacgg gcacactaga tcatggaggc gcactgactg aacgccgttc ggggtgacgcc 120  
 acagcgctga gacctgagcc tgtcctcctg cagaaatccg ctgcccgag caccgacgac 180  
 agtggcaagg acaggttgac tcagatgaag aggattctca aaaagcaagg aaacacggct 240  
 aaaagcgacg aagagctact acgagaggat gtagagactg ttttagaact cgaaaggaat 300  
 ggaaaaagat aatcaagctg agtgttccac gtgacactcg tcagttctaa agtccccaga 360  
 taaatcgctt cctatcttgc cacattcttt ctttctcttt tcattttaatt ccccaaattc 420  
 ttcattgttta tt 432

<210> 37  
 <211> 102  
 <212> PRT  
 <213> Conus catus

<400> 37  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Ser Gly Asp Ala Thr Ala Leu Arg Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Ser Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Lys  
 65 70 75 80  
 Ser Asp Glu Glu Leu Leu Arg Glu Asp Val Glu Thr Val Leu Glu Leu  
 85 90 95  
 Glu Arg Asn Gly Lys Arg  
 100

<210> 38  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 3, 4, 8, 11, 15 and 17 is Glu or gamma-carboxy-Glu

<400> 38  
 Ser Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Leu  
 1 5 10 15

Xaa Arg Asn

<210> 39  
 <211> 432  
 <212> DNA  
 <213> Conus catus

<400> 39  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatac 60  
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 acagcgctga gacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
 agtggcaagg acaggttgac tcagatgaag aggattctca aaaagcaagg aaacacggct 240  
 aaaggcgacg aagagctact acgagaggat gtagagactg ttttagaact cgaaagggat 300  
 ggaaaaagat aatcaagctg agtggtccac gtggcactcg tcagttctaa agtccccaga 360  
 taaatcggtc cctatcttgc cacattcttt ctttctcttt tcatttaatt ccccaaattct 420  
 ttcattgttta tt 432

<210> 40  
 <211> 102  
 <212> PRT  
 <213> Conus catus

<400> 40  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Ser Gly Asp Ala Thr Ala Leu Arg Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Ser Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Lys  
 65 70 75 80  
 Gly Asp Glu Glu Leu Leu Arg Glu Asp Val Glu Thr Val Leu Glu Leu  
 85 90 95  
 Glu Arg Asp Gly Lys Arg  
 100

<210> 41  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 3, 4, 8, 11, 15 and 17 is Glu or gamma-carboxy-Glu

<400> 41  
 Gly Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Leu  
 1 5 10 15

Xaa Arg Asp

<210> 42  
 <211> 432  
 <212> DNA  
 <213> Conus catus

<400> 42  
 gcgatgcaac tgtacacgta tctgtatctg ctggcgcccc tgggtgacctt ccacctaatac 60  
 ctaggcacgg gcacactaga tcatggaggc gcactgactg aacgccgttc ggggtgacgcc 120  
 acagcgctga gacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
 agtggcaagg acaggttgac tcagatgaag aggattctca aaaagcaagg aaacacggct 240  
 aaaagcgacg aagagctact acgagaggat gtagagactg ttttagaacc cgaaaggaat 300  
 ggaaaaagat aatcaagctg agtgttccac gtgacactcg tcagttctaa agtccccaga 360  
 taaatcggtc cctattttgc cacattcttt ctttctcttt tcattttaatt ccccaaattct 420  
 ttcattgttta tt 432

<210> 43  
 <211> 102  
 <212> PRT  
 <213> Conus catus

<400> 43  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Ala Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Ser Gly Asp Ala Thr Ala Leu Arg Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Ser Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Lys  
 65 70 75 80

Ser Asp Glu Glu Leu Leu Arg Glu Asp Val Glu Thr Val Leu Glu Pro  
                             85                            90                            95

Glu Arg Asn Gly Lys Arg  
                             100

<210> 44  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 3, 4, 8, 11, 15 and 17 is Glu or gamma-carboxy-Glu;  
 Xaa at residue 16 is Pro or hydroxy-Pro

<400> 44  
 Ser Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Xaa  
 1                            5                            10                            15

Xaa Arg Asn

<210> 45  
 <211> 427  
 <212> DNA  
 <213> Conus catus

<400> 45  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgtccc tggtagacctt ccacctaatac 60  
 ctaggcagcg gcacactaga tcatggaggc gcaactgactg aacgccgttt ggctgacgcc 120  
 acagcgctgg aagctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacaac 180  
 aatggcaagg acaggtcgac tcagatgagg aggattctca aaaagcaagg aaacacggct 240  
 agaatcgagg aaggtctgat agaggatctg gagaccgcta gagaacgcga cagtggaaaa 300  
 agataatcaa gctgagtgtt ccacgtgaca ctcattcagtt ctaaagtccc cagataaatc 360  
 gttccctatt ttgcccacat tctttcttcc tcttttcggt taattcccca aatctttcat 420  
 gttttatt 427

<210> 46  
 <211> 100  
 <212> PRT  
 <213> Conus catus

<400> 46  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Val Ser Leu Val Thr Phe  
 1                            5                            10                            15

His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
                             20                            25                            30

Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Glu Ala Glu Pro Val Leu  
                             35                            40                            45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asn Asn Gly Lys Asp Arg  
 50 55 60

Ser Thr Gln Met Arg Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Arg  
 65 70 75 80

Ile Glu Glu Gly Leu Ile Glu Asp Leu Glu Thr Ala Arg Glu Arg Asp  
 85 90 95

Ser Gly Lys Arg  
 100

<210> 47

<211> 17

<212> PRT

<213> Conus catus

<220>

<221> PEPTIDE

<222> (1)..(17)

<223> Xaa at residues 2, 3, 7, 10 and 14 is Glu or gamma-carboxy-Glu

<400> 47

Ile Xaa Xaa Gly Leu Ile Xaa Asp Leu Xaa Thr Ala Arg Xaa Arg Asp  
 1 5 10 15

Ser

<210> 48

<211> 427

<212> DNA

<213> Conus catus

<400> 48

gcgatgcaac tgtacacgta tctgtatctg ctggtgtccc tggtagacctt ccacctaatac 60

ctaggcacgg gcacactaga tcatggaggc gcactgactg aacgccgttt ggctgacgcc 120

acagcgctgg aagctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacaac 180

aatggcaagg acaggtcgac tcagatgagg aggattctca aaaagcaagg aaacacggct 240

agaatcgagg aaggtctgat agaggatctg gaggctgcta gagaacgcga cagtggaaaa 300

agataatcaa gctgagtgtt ccacgtgaca ctcatcagtt ctaaagtccc cagataaatc 360

gttccctatt ttgcccacat tctttcttcc tcttttcgtt taattcccca aatctttcat 420

gtttatt 427

<210> 49

<211> 100

<212> PRT

<213> Conus catus

<400> 49

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Ser Leu Val Thr Phe  
 1 5 10 15



His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
20 25 30

Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Glu Ala Glu Pro Val Leu  
35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asn Asn Gly Lys Asp Arg  
50 55 60

Ser Thr Gln Met Arg Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Arg  
65 70 75 80

Ile Glu Glu Gly Leu Ile Glu Asp Leu Glu Ala Ala Arg Glu Arg Asp  
\_lain 85 90 95

Ser Gly Lys Arg  
100

<210> 50

<211> 17

<212> PRT

<213> Conus catus

<220>

<221> PEPTIDE

<222> (1)..(17)

<223> Xaa at residues 2, 3, 7, 10 and 14 is Glu or gamma-carboxy-Glu

<400> 50

Ile Xaa Xaa Gly Leu Ile Xaa Asp Leu Xaa Ala Ala Arg Xaa Arg Asp  
1 5 10 15

Ser

<210> 51

<211> 433

<212> DNA

<213> Conus catus

<400> 51

gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatac 60

ctaggcacgg gcacactaga tcatggaggc gcaactgactg aacgccgttc ggctgacgcc 120

acagcgctga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180

aatggcaaag acagggttgac tcacatgaag aggattctca aaaaacgagc aaacaaagcc 240

agaggcgaac cagaagttgg aagcataccg gaggcagtaa gacaacaaga atgtataaga 300

aataataata atcgaccttg gtgtcccaag tgacactcgt cagttctaaa gtctccagat 360

agatcgttcc ctatctttgc cacactcttt ctttctcttt tcatttaagt tcccaaatac 420

tttcatgttt att 433

<210> 52

<211> 107

<212> PRT

<213> Conus catus

&lt;400&gt; 52

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15

His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
 20 25 30

Glu Arg Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
 50 55 60

Leu Thr His Met Lys Arg Ile Leu Lys Lys Arg Ala Asn Lys Arg Glu  
 65 70 75 80

Pro Glu Val Gly Ser Ile Pro Glu Ala Val Arg Gln Gln Glu Cys Ile  
 85 90 95

Arg Asn Asn Asn Asn Arg Pro Trp Cys Pro Lys  
 100 105

&lt;210&gt; 53

&lt;211&gt; 29

&lt;212&gt; PRT

&lt;213&gt; Conus catus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(29)

<223> Xaa at residues 2, 4, 10 and 16 is Glu or gamma-carboxy-Glu; Xaa  
 at residues 3, 9, 25 and 28 is Pro or hydroxy-Pro; Xaa at residue  
 26 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-  
 -phospho-Tyr or nitro-Tyr

&lt;400&gt; 53

Gly Xaa Xaa Xaa Val Gly Ser Ile Xaa Xaa Ala Val Arg Gln Gln Xaa  
 1 5 10 15

Cys Ile Arg Asn Asn Asn Asn Arg Xaa Xaa Cys Xaa Lys  
 20 25

&lt;210&gt; 54

&lt;211&gt; 430

&lt;212&gt; DNA

&lt;213&gt; Conus bullatus

&lt;400&gt; 54

gcgatgcaac tgtacacgta tctgtatctg ctggtgccct tggtagacctt ccacctaattc 60  
 ctgggcacgg gcacactaga tcatggaggc gcactgactg aacgccgttc ggctgacgcc 120  
 acagcactga aacctgagcc tgctctctctg cagaaaaccg ctgcccgcag caccgacgac 180  
 aatggcaaga agaggctgac tcagaggaag aggattctca aaaagcgagg aaacacggct 240  
 agaaaaccccg aaacttatat agagattgtg gagattttcta gggaactcga agagattgga 300  
 aaaagataat caagctgggt gttccacgtg aactctgtca gttctgaagt cccgaggtag 360

atcgttccct atttttgccca cactctttct ttctcttttc atttaattcc ccaaattctt 420

catgtttatt 430

<210> 55

<211> 101

<212> PRT

<213> Conus bullatus

<400> 55

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
20 25 30

Glu Arg Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45

Leu Gln Lys Thr Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Lys Arg  
50 55 60

Leu Thr Gln Arg Lys Arg Ile Leu Lys Lys Arg Gly Asn Thr Ala Arg  
65 70 75 80

Asn Pro Glu Thr Tyr Ile Glu Ile Val Glu Ile Ser Arg Glu Leu Glu  
85 90 95

Glu Ile Gly Lys Arg  
100

<210> 56

<211> 18

<212> PRT

<213> Conus bullatus

<220>

<221> PEPTIDE

<222> (1)..(18)

<223> Xaa at residue 1 is Pro or hydroxy-Pro; Xaa at residues 3, 5, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Glu; Xaa at residue 5 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 56

Asn Xaa Xaa Thr Xaa Ile Xaa Ile Val Xaa Ile Ser Arg Xaa Leu Xaa  
1 5 10 15

Xaa Ile

<210> 57

<211> 435

<212> DNA

<213> Conus bullatus

<400> 57

gcgatgcaac tgtacacgta tctgtatttg ctggtgccct tggtagcctt ccacctaatt 60

ctgggcacgg gcacactaga tcatggaggc gcaactgactg aacgccgttc ggctgacgcc 120

acagcgctga aacctgagcc tgcctcctg cagaaaaccg ctgcccgcag caccgacgac 180  
aatggcaaga agaggctgac tcagaggaag aggattctca aaaagcgagg aaacacggct 240  
agaaacccccg aaacttatta taatttagag cttgtggaga tttctaggga actcgaagaa 300  
attggaaaaa gataatcaag ctgggtgttc cactgacac tcgtcagttc ttaagtcccc 360  
aggtagatcg ttccctatatt ttgccacact ctttctttct cttttcattt aattccccaa 420  
actttcatgt ttatt 435

<210> 58  
<211> 103  
<212> PRT  
<213> Conus bullatus

<400> 58  
Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15  
His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
20 25 30  
Glu Arg Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45  
Leu Gln Lys Thr Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Lys Arg  
50 55 60  
Leu Thr Gln Arg Lys Arg Ile Leu Lys Lys Arg Gly Asn Thr Ala Arg  
65 70 75 80  
Asn Pro Glu Thr Tyr Tyr Asn Leu Glu Leu Val Glu Ile Ser Arg Glu  
85 90 95  
Leu Glu Glu Ile Gly Lys Arg  
100

<210> 59  
<211> 20  
<212> PRT  
<213> Conus bullatus

<220>  
<221> PEPTIDE  
<222> (1)..(20)  
<223> Xaa at residue 1 is Pro or hydroxy-Pro; Xaa at residues 3, 9, 12, 16, 18 and 19 is Glu or gamma-carboxy-Glu; Xaa at residues 5 and 6 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 59  
Asn Xaa Xaa Thr Xaa Xaa Asn Leu Xaa Leu Val Xaa Ile Ser Arg Xaa  
1 5 10 15  
Leu Xaa Xaa Ile  
20

<210> 60  
 <211> 425  
 <212> DNA  
 <213> Conus betulinus

<400> 60  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ctacctaate 60  
 ctaggcacgg gcacgctagg tcatggaggc gcaactgactg aacgccgttt ggctgatgcc 120  
 acagcgctga aacctgagcc tgtcctcctg cagaaatccg ccgcccgcag caccgacgac 180  
 aatggcaagg acaggttgac tcagatgatc aggattctca aaaagcgagg aaacatggcc 240  
 agaggcggcg aagaagttag agagtctgca gagactcttc atgaactcac gccgtaggaa 300  
 aaagaaaaag attaatacaag ctgggtgtcc cacgtgacac tcgtcagttc taaagtcctc 360  
 agtttcctat ctttgccacg tttctttttc ttttcattca attccccaaa tctttcatgt 420  
 ttatt 425

<210> 61  
 <211> 95  
 <212> PRT  
 <213> Conus betulinus

<400> 61  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 Tyr Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Ile Arg Ile Leu Lys Lys Arg Gly Asn Met Arg Gly  
 65 70 75 80  
 Glu Glu Val Arg Glu Ser Ala Glu Thr Leu His Glu Leu Thr Pro  
 85 90 95

<210> 62  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(17)  
 <223> Xaa at residues 3, 4, 7, 10 and 14 is Glu or gamma-carboxy-Glu; X  
 aa at residue 17 is Pro or hydroxy-Pro

<400> 62  
 Gly Gly Xaa Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Leu Thr  
 1 5 10 15

```
<210> 63
<211> 425
<212> DNA
<213> Conus betulinus
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```
<210> 64
<211> 95
<212> PRT
<213> Conus betulinus
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```
<210> 65
<211> 17
<212> PRT
<213> Conus betulinus
```

```
<220>
<221>  PEPTIDE
<222>  (1)..(17)
<223>  Xaa at residues 3, 4, 7, 10 and 14 is Glu or gamma-carboxy-Glu; X
      aa at residue 17 is Pro or hydroxy-Pro
```

&lt;400&gt; 65

Gly Gly Xaa Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Ile Thr  
 1 5 10 15

Xaa

&lt;210&gt; 66

&lt;211&gt; 425

&lt;212&gt; DNA

&lt;213&gt; Conus betulinus

&lt;400&gt; 66

gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ctacctaate 60  
 ctaggcacgg gcacgctagg tcatggaggc gcaactgactg aacgccgttt ggctgacgcc 120  
 acagcgctga aacctaagcc taccctctctg cagaaatccg ccgcccgcag cactgacgac 180  
 aatggcaagg acaggttgac tcagatgatc aggattctca aaaagcgagg aaacatgggc 240  
 agagacggcg aagaagtcag agaggctgca gagactctta atgaactcac gccgtaggaa 300  
 aaagaaaaag attaatcaag ctgggtgttc cacgtgacac tcgtcagttc taaagtaccc 360  
 agtttctctat ctttgccacg tttctttttt tttccattca attccccaaa tctttcatgt 420  
 ttatt 425

&lt;210&gt; 67

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Conus betulinus

&lt;400&gt; 67

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15

Tyr Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
 20 25 30

Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Lys Pro Ile Leu  
 35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
 50 55 60

Leu Thr Gln Met Ile Arg Ile Leu Lys Lys Arg Gly Asn Met Gly Arg  
 65 70 75 80

Asp Gly Glu Glu Val Arg Glu Ala Ala Glu Thr Leu Asn Glu Leu Thr  
 85 90 95

Pro

&lt;210&gt; 68

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Conus betulinus

&lt;220&gt;

<221> PEPTIDE

<222> (1)..(17)

<223> Xaa at residues 3, 4, 7, 10 and 14 is Glu or gamma-carboxy-Glu; Xaa at residue 17 is Pro or hydroxy-Pro

<400> 68

Asp Gly Xaa Xaa Val Arg Xaa Ala Ala Xaa Thr Leu Asn Xaa Leu Thr  
1 5 10 15

Xaa

<210> 69

<211> 437

<212> DNA

<213> Conus betulinus

<400> 69

gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaate 60  
ctaggcacgg gcacgctagg tcatggaggc gcaactgactg aaagccgttc ggctgacgcc 120  
acagcactga aaccagggcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
aatggcaagg acaggttgac tcagatgaag aggactctca aaaagcgagg aaacacggcc 240  
agaggctacg aagatgatag agagattgca gagactgtta gagaactcga ggaagcagga 300  
aaatgaaaaa gattaatcaa gctgggtggt ccacgtgaca cttgtcagtt ctaaagtccc 360  
cagatagatc gttccctatt tttgccacat tctttttttc tcttttcatt taattcccca 420  
aatctttcat gtttatt 437

<210> 70

<211> 98

<212> PRT

<213> Conus betulinus

<400> 70

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

His Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
20 25 30

Glu Ser Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Gly Pro Val Leu  
35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
50 55 60

Leu Thr Gln Met Lys Arg Thr Leu Lys Lys Arg Gly Asn Thr Arg Tyr  
65 70 75 80

Glu Asp Asp Arg Glu Ile Ala Glu Thr Val Arg Glu Leu Glu Glu Ala  
85 90 95

Gly Lys

<210> 71



<211> 18  
 <212> PRT  
 <213> Conus betulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(18)  
 <223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa at residue 3, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Glu

<400> 71  
 Gly Xaa Xaa Asp Asp Arg Xaa Ile Ala Xaa Thr Val Arg Xaa Leu Xaa  
 1 5 10 15

Xaa Ala

<210> 72  
 <211> 425  
 <212> DNA  
 <213> Conus betulinus

<400> 72  
 gcgatgcaac tgtacacgta tctgtatctg ctgggtgccgc tgggtgacctt ctacctaatac 60  
 ctaggcacgg gcacgctagg tcatggaggc gcactgactg aacgccgttt ggctgacgcc 120  
 acagcgtga aacctgagcc tgtcctoctg cagaaatccg ccgcccgcag cactgacgac 180  
 aatggcaagg acaggttgac tcagatgatc aggattctca aaaagcgagg aaacatggcc 240  
 agaggcggcg gagaagttag agagtctgca gagactcttc atgaaatcac gccgtaggaa 300  
 aaagaaaaag attaatacaag ctgggtgttc cactgacac tcgtcagttc taaagtcccc 360  
 agtttcttat ctttgccagg tttctttctc ttttcattca attccccaaa tctttcatgt 420  
 ttatt 425

<210> 73  
 <211> 95  
 <212> PRT  
 <213> Conus betulinus

<400> 73  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 Tyr Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Ile Arg Ile Leu Lys Lys Arg Gly Asn Met Arg Gly  
 65 70 75 80  
 Gly Glu Val Arg Glu Ser Ala Glu Thr Leu His Glu Ile Thr Pro

95

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<400>      74
Gly Gly Gly Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Ile Thr
 1              5              10              15
Xaa
```

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<210> 76
<211> 85
<212> PRT
<213> Conus ammiralis
```

<400> 76															
Met	Gln	Leu	Tyr	Thr	Tyr	Leu	Cys	Leu	Leu	Val	Pro	Leu	Val	Thr	Phe
1				5					10					15	
Tyr	Leu	Ile	Leu	Gly	Thr	Gly	Thr	Leu	Ala	His	Gly	Gly	Ala	Leu	Thr
			20					25					30		
Glu	Arg	Arg	Leu	Ala	His	Ala	Arg	Val	Ile	Glu	Pro	Asp	Pro	Ala	Pro
		35					40					45			
Leu	Glu	Asn	Ser	Ala	Leu	Arg	Ser	Ile	Arg	Arg	Gln	Arg	Gln	Gly	Gln
	50					55					60				
Asp	Asp	Ser	Glu	Glu	Glu	Asp	Ser	Gln	Lys	Val	Met	Lys	His	Gly	Gln

65

70

75

80

Arg Arg Glu Arg Arg  
85

<210> 77  
<211> 24  
<212> PRT  
<213> Conus ammiralis

<220>  
<221> PEPTIDE  
<222> (1)..(24)  
<223> Xaa at residue 1 is Gln or pyro-Glu; Xaa at residues 7, 8, 9 and  
22 is Glu or gamma-carboxy-Gl

<400> 77  
Xaa Gly Gln Asp Asp Ser Xaa Xaa Xaa Asp Ser Gln Lys Val Met Lys  
1 5 10 15

His Gly Gln Arg Arg Xaa Arg Arg  
20

<210> 78  
<211> 421  
<212> DNA  
<213> Conus episcopatus

<400> 78  
gcatgcaac tgtacacgta tctgtgtctg ctggtgcccc tggtagacctt ctacctaatt 60  
ctaggcacgg gcacactagc tcatggaggc gcaactgactg aacatcgttc ggccgacgcc 120  
acagcactga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
aacggcaagg acaggttgac tcggtggaag gggattctca aaaagcgagg aaacacggcc 240  
agaggcgga aagatattgt ggagactatt acagaactcg aaaaaatagg aaaaaggtaa 300  
tcaagctggg tgttccacgt gacactcatc agttctaaag tccccagata gatcgttccc 360  
tatttttgcc atattctttc tttctctttt catgtaattc cccaaatctt tcatgtttat 420  
t 421

<210> 79  
<211> 96  
<212> PRT  
<213> Conus episcopatus

<400> 79  
Met Gln Leu Tyr Tyr Tyr Leu Cys Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

Tyr Leu Ile Leu Gly Thr Gly Thr Leu Ala His Gly Gly Ala Leu Thr  
20 25 30

Glu His Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
50 55 60

Leu Thr Arg Trp Lys Gly Ile Leu Lys Lys Arg Gly Asn Thr Arg Gly  
65 70 75 80

Lys Asp Ile Val Glu Thr Ile Thr Glu Leu Glu Lys Ile Gly Lys Arg  
85 90 95

<210> 80  
<211> 15  
<212> PRT  
<213> Conus episcopatus

<220>  
<221> PEPTIDE  
<222> (1)..(15)  
<223> Xaa at residues 7, 11 and 13 is Glu or gamma-carboxy-Glu

<400> 80  
Gly Gly Lys Asp Ile Val Xaa Thr Ile Thr Xaa Leu Xaa Lys Ile  
1 5 10 15

<210> 81  
<211> 433  
<212> DNA  
<213> Conus lynceus  
<400> 81  
gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatac 60  
ctaggcacgg gcacactaga tcatggaggc gcaactgactg aacgccgttc gactgatgcc 120  
atagcactga aacctgagcc tgtcctcctg cagaaatcct ctgccgcgag caccgacgat 180  
aatggcaacg acaggttgac tcagatgaag aggatcctca aaaagcgagg aaacaaagcc 240  
agaggcgaag aagaagttgc aaaaatggcg gcagagattg ccagagaaaa cgctgcaaata 300  
gggaaatgat aatcaagttg ggtgttccac gtgacactcg tcagttctaa agtccccaga 360  
tagatcggtc cctatttttg ccacattcctt tctttctctt ttcatttaata tccccaaatac 420  
tttcatgttt att 433

<210> 82  
<211> 99  
<212> PRT  
<213> Conus lynceus

<400> 82  
Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
20 25 30

Glu Arg Arg Ser Thr Asp Ala Ile Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45

Leu Gln Lys Ser Ser Ala Arg Ser Thr Asp Asp Asn Gly Asn Asp Arg

50

55

60

Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Lys Arg Glu  
 65 70 75 80

Glu Glu Val Ala Lys Met Ala Ala Glu Ile Ala Arg Glu Asn Ala Ala  
 85 90 95

Asn Gly Lys

<210> 83

<211> 19

<212> PRT

<213> Conus figulinus

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa at residues 2, 3, 4, 11 and 15 is Glu or gamma-carboxy-Glu

<400> 83

Gly Xaa Xaa Xaa Val Ala Lys Met Ala Ala Xaa Ile Ala Arg Xaa Asn  
 1 5 10 15

Ala Ala Asn

<210> 84

<211> 430

<212> DNA

<213> Conus lynceus

<400> 84

gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggatgatctt ctacctaattc 60

ctaggcacgg gcacgctagg tcatggaggc aactgactg aacgccgttc ggctgatgcc 120

acagcactga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccggcgac 180

gatgccaaagg agaggttgac tcagacgaag aggattcgca aaaagcgagc aaacacgacc 240

agaggcaaag aagaggatag agagattgtg gagactgtta gagaactcga agaaatagga 300

aaaagatgat caagctgggt gttccacgtg aactcgtca gttccaaagt cccagatag 360

atcgttccct atttttgcca cattctttct tcttttttcc atttaattcc ccaaattctt 420

catgtttatt 430

<210> 85

<211> 101

<212> PRT

<213> Conus lynceus

<400> 85

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Ile Phe  
 1 5 10 15

Tyr Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Thr Leu Thr  
 20 25 30

Glu Arg Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Gly Asp Asp Ala Lys Glu Arg  
 50 55 60

Leu Thr Gln Thr Lys Arg Ile Arg Lys Lys Arg Ala Asn Thr Thr Arg  
 65 70 75 80

Gly Lys Glu Glu Asp Arg Glu Ile Val Glu Thr Val Arg Glu Leu Glu  
 85 90 95

Glu Ile Gly Lys Arg  
 100

<210> 86

<211> 18

<212> PRT

<213> Conus lynceus

<220>

<221> PEPTIDE

<222> (1)..(18)

<223> Xaa at residues 3, 4, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Gl

<400> 86

Gly Lys Xaa Xaa Asp Arg Xaa Ile Val Xaa Thr Val Arg Xaa Leu Xaa  
 1 5 10 15  
 Xaa Ile

<210> 87

<211> 433

<212> DNA

<213> Conus lynceus

<400> 87

gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatt 60

ctaggcacgg gcacactaga tcatggaggc gcactgactg aacgccgttc gactgacgcc 120

atagcactga aacctgagcc tgtcctcctg cagaaatcct ctgcccgag caccgacgac 180

aatggcaacg acagggttgat tcagatgaag aggattctca aaaagcgagg aaacaaagcc 240

agaggcgaag aggaagttgc aaaaatggcg gcagagctta ccagagaaga agctgtaaag 300

gggaaatgat aatcaagttg ggtgttcac gtgacactcg tcagttctaa agtccccaga 360

tagatcgttc cctatttttg ccacattott tttttctatt ttcatttaatt tccccaaatc 420

tttcatgttt att 433

<210> 88

<211> 99

<212> PRT

<213> Conus lynceus

<400> 88

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe

1                      5                      10                      15  
 His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
                     20                      25                      30  
 Glu Arg Arg Ser Thr Asp Ala Ile Ala Leu Lys Pro Glu Pro Val Leu  
                     35                      40                      45  
 Leu Gln Lys Ser Ser Ala Arg Ser Thr Asp Asp Asn Gly Asn Asp Arg  
                     50                      55                      60  
 Leu Ile Gln Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Lys Arg Glu  
                     65                      70                      75                      80  
 Glu Glu Val Ala Lys Met Ala Ala Glu Leu Thr Arg Glu Glu Ala Val  
                     85                      90                      95

Lys Gly Lys

<210> 89  
 <211> 19  
 <212> PRT  
 <213> Conus lynceus  
  
 <220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 2, 3, 4, 11, 15 and 16 is Glu or gamma-carboxy-Gl

<400> 89  
 Gly Xaa Xaa Xaa Val Ala Lys Met Ala Ala Xaa Leu Thr Arg Xaa Xaa  
 1                      5                      10                      15

Ala Val Lys

<210> 90  
 <211> 433  
 <212> DNA  
 <213> Conus figulinus  
  
 <400> 90  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ctacctaatac 60  
 ctaggcacgg gcacgctagg tcatggaggg gcactgactg aacgccgttt ggctgacgcc 120  
 acagcgctga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
 aatgacaagg acaggctgac ccagatgaag aggattttca aaaagcgagg aaacaaagcc 240  
 agaggcgagg aagaagttgc agagatggcg gcagagattg caagagaaaa tcaagcaaac 300  
 gggaaaagat aatcaaactg ggtgttccac gtgacactcg tcagttctaa agtccccaga 360  
 taggtcgttc tctatgtttg ccacattctt tctttttctt ttcatttaac tccccaaatc 420  
 tttcatgttt att 433

<210> 91  
 <211> 100

<212> PRT  
 <213> Conus figulinus

<400> 91  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 Tyr Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Asp Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Lys Arg Ile Phe Lys Lys Arg Gly Asn Lys Arg Glu  
 65 70 75 80  
 Glu Glu Val Ala Glu Met Ala Ala Glu Ile Ala Arg Glu Asn Gln Ala  
 85 90 95  
 Asn Gly Lys Arg  
 100

<210> 92  
 <211> 19  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residues 2, 3, 4, 7, 11 and 15 is Glu or gamma-carboxy-Glu

<400> 92  
 Gly Xaa Xaa Xaa Val Ala Xaa Met Ala Ala Xaa Ile Ala Arg Xaa Asn  
 1 5 10 15

Gln Ala Asn

<210> 93  
 <211> 431  
 <212> DNA  
 <213> Conus figulinus

<400> 93  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacatt ctacctaatt 60  
 ctagggacgg gcacactagc tcatggaggc gcaccgactg aacgccgttt ggctgacacc 120  
 acagcactga aacccgagca tgtcctcctg cagatgtccg ctgcccgcag caccaacgat 180  
 aatggcaagg acaggttgac tcagatgaag aggattctca aaaagcaagg aaacacagcc 240  
 agaagctacg aacaagctag agaagttcag gaggctgtta atgaactcaa ggaaagaggt 300  
 aaaaagataa tcatgctggg tgttccacgt gacactcgtc agttctaaag cccccagata 360  
 gattgttccg tatttttacc acgttctttc tttctctttt catttaattc cccaaatctt 420



tcatgtttat t

431

<210> 94  
 <211> 114  
 <212> PRT  
 <213> Conus figulinus

<400> 94  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 Tyr Leu Ile Leu Gly Thr Gly Thr Leu Ala His Gly Gly Ala Pro Thr  
 20 25 30  
 Glu Arg Arg Leu Ala Asp Thr Thr Ala Leu Lys Pro Glu His Val Leu  
 35 40 45  
 Leu Gln Met Ser Ala Ala Arg Ser Thr Asn Asp Asn Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Arg  
 65 70 75 80  
 Ser Tyr Glu Gln Ala Arg Glu Val Gln Glu Ala Val Asn Glu Leu Lys  
 85 90 95  
 Glu Arg Gly Lys Lys Ile Ile Met Leu Gly Val Pro Arg Asp Thr Arg  
 100 105 110

Gln Phe

<210> 95  
 <211> 18  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(18)  
 <223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa at residues 3, 7, 10, 14 and 17 is Glu or gamma-carboxy-Glu

<400> 95  
 Ser Xaa Xaa Gln Ala Arg Xaa Val Gln Xaa Ala Val Asn Xaa Leu Lys  
 1 5 10 15

Xaa Arg

<210> 96  
 <211> 431  
 <212> DNA  
 <213> Conus figulinus

<400> 96  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ctacctaatt 60  
 ctaggggacgg gcacactagc tcatggaggc gcaccgactg aacgccgttt ggctgacacc 120

acagcactga aacccgagca tgtcctcctg cagatgtccg ctgcccgcag caccaacgat 180  
aatggcaagg acaggttgac tcagatgaag aggattctca aaaagcaagg aaacacagcc 240  
agaagctacg aacaagctag agaagttcag gaggctgtta atgaactcaa ggaaagaggt 300  
aaaaagataa tcatgtctggg tgttccacgt gacactogtc agttctaaag cccccagata 360  
gattgttccg tatttttacc acgttctttc tttctctttt catttaattc cccaaatctt 420  
tcatgtttat t 431

<210> 97  
<211> 114  
<212> PRT  
<213> Conus figulinus

<400> 97  
Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15  
Tyr Leu Ile Leu Gly Thr Gly Thr Leu Ala His Gly Gly Ala Pro Thr  
20 25 30  
Glu Arg Arg Leu Ala Asp Thr Thr Ala Leu Lys Pro Glu His Val Leu  
35 40 45  
Leu Gln Met Ser Ala Ala Arg Ser Thr Asn Asp Asn Gly Lys Asp Arg  
50 55 60  
Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Gln Gly Asn Thr Ala Arg  
65 70 75 80  
Ser Tyr Glu Gln Ala Arg Glu Val Gln Glu Ala Val Asn Glu Leu Lys  
85 90 95  
Glu Arg Gly Lys Lys Ile Ile Met Leu Gly Val Pro Arg Asp Thr Arg  
100 105 110

Gln Phe

<210> 98  
<211> 34  
<212> PRT  
<213> Conus figulinus

<220>  
<221> PEPTIDE  
<222> (1)..(34)  
<223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa at residues 3, 7, 10, 14 and 17 is Glu or gamma-carboxy-Glu; Xaa at residue 28 is Pro or hydroxy-Pro

<400> 98  
Ser Xaa Xaa Gln Ala Arg Xaa Val Gln Xaa Ala Val Asn Xaa Leu Lys  
1 5 10 15  
Xaa Arg Gly Lys Lys Ile Ile Met Leu Gly Val Xaa Arg Asp Thr Arg  
20 25 30

Gln Phe

<210> 99  
 <211> 429  
 <212> DNA  
 <213> Conus figulinus

<400> 99  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagcgtt ccacctaata 60  
 ctaggcacgg gcacactagc tcatggaggc gcaactggctg aacgccgttt ggctgacgcc 120  
 acagcgctga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
 aatggcaagg acaggttgac tgagatgaag aggattctca aaaagcgagg aaacacggcc 240  
 agagactacg aagatgatag agagattgca gagactgtta gagaactcga agaaataggt 300  
 aaaagataat caagctgggt gttcaattga cactcatcag ttctaaagtc cccagataga 360  
 tcgttcccta attttgccac gttcttttctt tctcttttca ttttaattccc caaatctttc 420  
 atgtttatt 429

<210> 100  
 <211> 99  
 <212> PRT  
 <213> Conus figulinus

<400> 100  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Gly Thr Gly Thr Leu Ala His Gly Gly Ala Glu Arg  
 20 25 30  
 Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu Leu Gln  
 35 40 45  
 Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg Leu Thr  
 50 55 60  
 Glu Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Thr Ala Arg Asp Tyr  
 65 70 75 80  
 Glu Asp Asp Arg Glu Ile Ala Glu Thr Val Arg Glu Leu Glu Glu Ile  
 85 90 95

Gly Lys Arg

<210> 101  
 <211> 18  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(18)  
 <223> Xaa at residue 2 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-

sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa at residues 3, 7, 10, 14, 16 and 17 is Glu or gamma-carboxy-Glu

<400> 101

Asp Xaa Xaa Asp Asp Arg Xaa Ile Ala Xaa Thr Val Arg Xaa Leu Xaa  
1 5 10 15

Xaa Ile

<210> 102

<211> 419

<212> DNA

<213> Conus figulinus

<400> 102

gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ctacctaatac 60  
ctaggcacgg gcacgctagg tcatggaggc gcaactgactg aacgccgttt ggctgacgcc 120  
acagcgctga aacctgagcc tgcctcctg cagaaatccg ctgcccgag caccgacgac 180  
aatggcaagg acaggttgac tcagatgaag gggactgtca aaaagcgagg aaacacggcc 240  
gaagaagtta gagaggctgc agagactctt catgaactct cgctgtagga aaaagaaaaa 300  
gattaatcaa gctgggtgtt ccacgtgaca ctcgtcagtt ctaaagtccc cagttcccta 360  
tctttgccac gttttttctt tctcttttca tccaattccc caaatctttc atgtttatt 419

<210> 103

<211> 94

<212> PRT

<213> Conus figulinus

<400> 103

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

Tyr Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
20 25 30

Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Gly Lys Asp Arg  
50 55 60

Leu Thr Gln Met Lys Gly Thr Val Lys Lys Arg Gly Asn Thr Ala Glu  
65 70 75 80

Glu Val Arg Glu Ala Ala Glu Thr Leu His Glu Leu Ser Leu  
85 90

<210> 104

<211> 19

<212> PRT

<213> Conus figulinus

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa at residues 5, 6, 9, 12 and 16 is Glu or gamma-carboxy-Glu

<400> 104

Gly Asn Thr Ala Xaa Xaa Val Arg Xaa Ala Ala Xaa Thr Leu His Xaa  
1 5 10 15

Leu Ser Leu

<210> 105

<211> 427

<212> DNA

<213> Conus figulinus

<400> 105

gcgatgcaac tgtacacgta tctgtatctg ctggtgcctc tgggtgacctt ccacctaate 60  
ctaggcacgg gcacactagg tcatggaggc gcactgactg aacgccgttt ggctgacgcc 120  
acagcgctga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgtc 180  
aatggcaagg acaggttgac tgagatgaag aggattctca aaaagcgagg aagcatatcc 240  
atgggcttcg aacatagaag agagattgca gagttgggta gagaactcgc tgaaataggt 300  
aaacgataat caagctgggt gttccactaa cactcgtcag ttctaaagtc cccagataga 360  
tcgttccta tctttgccac attttttttc tcttttcatt taattcccca aatctttcat 420  
gtttatt 427

<210> 106

<211> 101

<212> PRT

<213> Conus figulinus

<400> 106

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

His Leu Ile Leu Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
20 25 30

Glu Arg Arg Leu Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Val Asn Gly Lys Asp Arg  
50 55 60

Leu Thr Glu Met Lys Arg Ile Leu Lys Lys Arg Gly Ser Ile Ser Met  
65 70 75 80

Gly Phe Glu His Arg Arg Glu Ile Ala Glu Leu Val Arg Glu Leu Ala  
85 90 95

Glu Ile Gly Lys Arg  
100

<210> 107

<211> 23

<212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(23)  
 <223> Xaa at residues 8, 12, 15, 19 and 22 is Glu or gamma-carboxy-Glu

<400> 107  
 Gly Ser Ile Ser Met Gly Phe Xaa His Arg Arg Xaa Ile Ala Xaa Leu  
 1 5 10 15

Val Arg Xaa Leu Ala Xaa Ile  
 20

<210> 108  
 <211> 427  
 <212> DNA  
 <213> Conus distans

<400> 108  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtaggcctt ccacctaatac 60  
 caaggcacgg gcacactagg ccatggaggc gcaactgactg aaggccgttc ggctgacgcc 120  
 acagcgccga aacctgaacc tgtcctcctg cagaaatccg atgcccgag cgccgacgac 180  
 aacggcaagg acaagttgac tcagatgaag aggactctga aaaagcaagg acacattgcc 240  
 agaaccataa ctgctgaaga ggcagagagg actagtgaag gaatgtcatc aatgggaaaa 300  
 agataatcaa gctgggtgtt ccacgtgaca ctgctcagtt ctaaagtccc cagataaatc 360  
 gttccctgtt ttgcccctgt tctttctttc tcttttcatt caattcccca aatctttcat 420  
 gtttatt 427

<210> 109  
 <211> 98  
 <212> PRT  
 <213> Conus distans

<400> 109  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Val Pro Leu Val Ala Phe  
 1 5 10 15  
 His Leu Ile Gln Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Gly Arg Ser Ala Asp Ala Thr Ala Pro Lys Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Asp Ala Arg Ser Ala Asp Asp Asn Gly Lys Asp Lys  
 50 55 60  
 Leu Thr Gln Met Lys Arg Thr Leu Lys Lys Gln Gly His Ile Ala Arg  
 65 70 75 80  
 Thr Ile Thr Ala Glu Glu Ala Glu Arg Thr Ser Met Ser Ser Met Gly  
 85 90 95

## Lys Arg

<210> 110  
 <211> 17  
 <212> PRT  
 <213> Conus distans  
  
 <220>  
 <221> PEPTIDE  
 <222> (1)..(17)  
 <223> Xaa at residues 5, 6, 8 and 12 is Glu or gamma-carboxy-Glu

<400> 110  
 Thr Ile Thr Ala Xaa Xaa Ala Xaa Arg Thr Ser Xaa Arg Met Ser Ser  
 1 5 10 15

## Met

<210> 111  
 <211> 415  
 <212> DNA  
 <213> Conus distans  
  
 <400> 111  
 gcgatgcaac tgtacacgta tctgtatctg ctggtatccc tgggtggcctt ccacctaatac 60  
 caaggaacgg gcacgctagg ccatggaggc gcaactgactg aaggccgttc ggctgacgcc 120  
 acagcgccga aacctgaacc tgtgctcgtg cagaaatcgg atgcccgag cgccgacgac 180  
 aaccgcaagg acaagttgac tcagatgaag aggattctga aaaagcaaga aaccccaact 240  
 cctgaagagg tagagcgcca taccgaaaga ctcaaaagca tgggaaaaag ataatcaagc 300  
 tgggtgttcc acgtgacact cgtcagttct aaagtcccca gatggatcgt tccctgtttt 360  
 tgccccgttc tttcgttctc ttttcattca attccccaaa tctttcatgt ttatt 415  
 <210> 112  
 <211> 96  
 <212> PRT  
 <213> Conus distans

<400> 112  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Ser Leu Val Ala Phe  
 1 5 10 15  
 His Leu Ile Gln Gly Thr Gly Thr Leu Gly His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Gly Arg Ser Ala Asp Ala Thr Ala Pro Lys Pro Glu Pro Val Leu  
 35 40 45  
 Val Gln Lys Ser Asp Ala Arg Ser Ala Asp Asp Asn Arg Lys Asp Lys  
 50 55 60  
 Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Gln Glu Thr Pro Thr Pro  
 65 70 75 80  
 Glu Glu Val Glu Arg His Thr Glu Arg Leu Lys Ser Met Gly Lys Arg

85

90

95

<210> 113  
 <211> 19  
 <212> PRT  
 <213> Conus distans  
 <220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa at residue 1 is Gln or pyro-Glu; Xaa at residues 2, 4, 6, 7, 8, 10 and 14 is Glu or gamma-carboxy-Glu

<400> 113  
 Xaa Xaa Thr Xaa Thr Xaa Xaa Xaa Val Xaa Arg His Thr Xaa Arg Leu  
 1 5 10 15

Lys Ser Met

<210> 114  
 <211> 439  
 <212> DNA  
 <213> Conus purpurascens

<400> 114  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatac 60  
 ctaggcacgg gaatgctagc tcatggagac aactgactg aacgcogttc ggttgacgcc 120  
 acagcactga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180  
 aatgacaagg acaggttgac tcagatgaag aggattctca aaaagcgagg aaacaaagcc 240  
 agaggcgaag aagaacattc caagtatcaa gagtgtotta gagaagtaag agtaaataag 300  
 gtacaacaag aatgttaatc aagctgggtg ttccacgtga cactcgtcag ttctaaagtc 360  
 cccagataga tcgttcccg a tttttgccac attcttttctt tctctttttca ttttaattccc 420  
 caaatctttc atgtttatt 439

<210> 115  
 <211> 102  
 <212> PRT  
 <213> Conus purpurascens

<400> 115  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15

His Leu Ile Leu Gly Thr Gly Met Leu Ala His Gly Asp Thr Leu Thr  
 20 25 30

Glu Arg Arg Ser Val Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45

Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asn Asp Lys Asp Arg  
 50 55 60

Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Lys Arg Glu



65                      70                      75                      80  
 Glu Glu His Ser Lys Tyr Gln Glu Cys Leu Arg Glu Val Arg Val Asn  
                     85                      90                      95

Lys Val Gln Gln Glu Cys  
                     100

<210> 116  
 <211> 24  
 <212> PRT  
 <213> Conus purpurascens

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa at residues 2, 3, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu;  
 Xaa at residue 8 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr,  
 O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 116  
 Gly Xaa Xaa Xaa His Ser Lys Xaa Gln Xaa Cys Leu Arg Xaa Val Arg  
 1                      5                      10                      15

Val Asn Lys Val Gln Gln Xaa Cys  
                     20

<210> 117  
 <211> 436  
 <212> DNA  
 <213> Conus purpurascens

<400> 117  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatac 60  
 ctaggcacgg gcacactagc tcatggaggc gcactgactg aacgcgggttc cactgacgcc 120  
 acagcactga aacctgagcc tgtcctgcag gaatctgatg cccgcagcac cgacgacaat 180  
 gacaaggaca ggttgactca gatgaagagg attctcaaaa agcgaggaaa caaagccaga 240  
 ggccaagaag aacattccaa gtatcaggag tgtcttagag aagtaagagt aaataacgta 300  
 caacaagaat gttaatcaag ctgggtgttc cacgtgacac tcgtcagttc taaagtcccc 360  
 agatagatcg ttccctatatt ttgccacatt ctttctttct cttttcattt aattccccaa 420  
 atctttcatg tttatt 436

<210> 118  
 <211> 101  
 <212> PRT  
 <213> Conus purpurascens

<400> 118  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1                      5                      10                      15

His Leu Ile Leu Gly Thr Gly Thr Leu Ala His Gly Gly Ala Leu Thr  
                     20                      25                      30

Glu Arg Gly Ser Thr Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
           35                          40                          45

Gln Glu Ser Asp Ala Arg Ser Thr Asp Asp Asn Asp Lys Asp Arg Leu  
       50                          55                          60

Thr Gln Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Lys Arg Glu Glu  
   65                          70                          75                          80

Glu His Ser Lys Tyr Gln Glu Cys Leu Arg Glu Val Arg Val Asn Asn  
                           85                          90                          95

Val Gln Gln Glu Cys  
                           100

<210> 119

<211> 24

<212> PRT

<213> Conus purpurascens

<220>

<221> PEPTIDE

<222> (1)..(24)

<223> Xaa at residues 2, 3, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu;  
       Xaa at residue 8 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr,  
       O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 119

Gly Xaa Xaa Xaa His Ser Lys Xaa Gln Xaa Cys Leu Arg Xaa Val Arg  
   1                          5                          10                          15

Val Asn Asn Val Gln Gln Xaa Cys  
                           20

<210> 120

<211> 439

<212> DNA

<213> Conus purpurascens

<400> 120

gcgatgcaac tgtacacgta totgtatctg ctggtgcccc tggtagacatt ccacctaatac 60  
 ctaagcacgg gcacactagc tcatggaggc aactgactg aacgccgttc gactgacacc 120

acagcactga aacctgagcc tgtcctcctg cagaaatctg atgcccgcag caccgacgac 180

aatgacaagg acaggttgac tcagatgaag aggattctca aaaagcgagg aaacaaagcc 240

agaggcgaag aagaacattc caagtatcag gagtgtctta gagaaataag agtaaataag 300

gtacaacaag aatgttaatc aagctgggtg ttccacgtga caccgcgtcag ttctaaagtc 360

cccagataga tcgttcccta tttttgccac attctttctt tctcttttca ttttaattccc 420

caaattcttc atgtttatt 439

<210> 121

<211> 102

<212> PRT

<213> Conus purpurascens

&lt;400&gt; 121

Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
1 5 10 15

His Leu Ile Leu Ser Thr Gly Thr Leu Ala His Gly Gly Thr Leu Thr  
20 25 30

Glu Arg Arg Ser Thr Asp Thr Thr Ala Leu Lys Pro Glu Pro Val Leu  
35 40 45

Leu Gln Lys Ser Asp Ala Arg Ser Thr Asp Asp Asn Asp Lys Asp Arg  
50 55 60

Leu Thr Gln Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Lys Arg Glu  
65 70 75 80

Glu Glu His Ser Lys Tyr Gln Glu Cys Leu Arg Glu Ile Arg Val Asn  
85 90 95

Lys Val Gln Gln Glu Cys  
100

&lt;210&gt; 122

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Conus purpurascens

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(24)

<223> Xaa at residues 2, 3, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu;  
Xaa at residue 8 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr,  
O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

&lt;400&gt; 122

Gly Xaa Xaa Xaa His Ser Lys Xaa Gln Xaa Cys Leu Arg Xaa Ile Arg  
1 5 10 15

Val Asn Lys Val Gln Gln Xaa Cys  
20

&lt;210&gt; 123

&lt;211&gt; 439

&lt;212&gt; DNA

&lt;213&gt; Conus purpurascens

&lt;400&gt; 123

gogatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacott ccacctaate 60

ctaagcacgg gcacactagc tcatggagac aactgactg aacgccgttc ggttgacgcc 120

acagcactga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgac 180

gatgacaagg acaggttgac tcagaggaag aggattctca aaaagcaagg aaacaaagcc 240

agaggcgaag cagaacatta cgcgtttcag gagtgtotta gagaaataaa tgtaaataag 300

gtacaacaag aatgttaate aagctgggtg ttctacgtga cactcgtcag ttctaaagtc 360

cccagataga tcgttcoccta tttttgccac attctttctt tctcttttca ttttaattccc 420

caaatctttc atgtttatt

439

<210> 124  
 <211> 102  
 <212> PRT  
 <213> Conus purpurascens

<400> 124  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Ser Thr Gly Thr Leu Ala His Gly Asp Thr Leu Thr  
 20 25 30  
 Glu Arg Arg Ser Val Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Asp Asp Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Arg Lys Arg Ile Leu Lys Lys Gln Gly Asn Lys Arg Glu  
 65 70 75 80  
 Ala Glu His Tyr Ala Phe Gln Glu Cys Leu Arg Glu Ile Asn Val Asn  
 85 90 95  
 Lys Val Gln Gln Glu Cys  
 100

<210> 125  
 <211> 24  
 <212> PRT  
 <213> Conus purpurascens

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa at residues 2, 4, 10, 14 and 23 is Glu or gamma-carboxy-Glu;  
 Xaa at residue 6 is Tyr, mono-halo-Tyr, di-halo-Tyr, 125I-Tyr, O-  
 sulpho-Tyr, O-phospho-Tyr or nitro-Tyr

<400> 125  
 Gly Xaa Ala Xaa His Xaa Ala Phe Gln Xaa Cys Leu Arg Xaa Ile Asn  
 1 5 10 15  
 Val Asn Lys Val Gln Gln Xaa Cys  
 20

<210> 126  
 <211> 421  
 <212> DNA  
 <213> Conus purpurascens

<400> 126  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaatac 60  
 ctaggcacgg gaatgctagc tcatggagac aactgactg aacgccgttc ggttgacgcc 120  
 acagcactga aacctgagcc tgtcctcctg cagaaatccg ctgcccgcag caccgacgcc 180

aatggcaagg acaggttgac tcagaggaag aggattctca aaaagcgagg aaacatggcc 240  
 aggggcttag aagaagatat agagtttatt gagacgatcg aagaaattgg aaaaagataa 300  
 ccaagctggg tgttccacgt gacactcgtc ggttctaaag tcccagata gatcgttcac 360  
 tatttttgcc acattctttc tttctctttt catttaattc cccaaatctt tcatgtttat 420  
 t 421

<210> 127  
 <211> 96  
 <212> PRT  
 <213> Conus purpurascens

<400> 127  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Gly Thr Gly Met Leu Ala His Gly Asp Thr Leu Thr  
 20 25 30  
 Glu Arg Arg Ser Val Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45  
 Leu Gln Lys Ser Ala Ala Arg Ser Thr Asp Ala Asn Gly Lys Asp Arg  
 50 55 60  
 Leu Thr Gln Arg Lys Arg Ile Leu Lys Lys Arg Gly Asn Met Arg Leu  
 65 70 75 80  
 Glu Glu Asp Ile Glu Phe Ile Glu Thr Ile Glu Glu Ile Gly Lys Arg  
 85 90 95

<210> 128  
 <211> 15  
 <212> PRT  
 <213> Conus purpurascens

<220>  
 <221> PEPTIDE  
 <222> (1)..(15)  
 <223> Xaa at residues 3, 4, 7, 10, 13 and 14 is Glu or gamma-carboxy-Glu

<400> 128  
 Gly Leu Xaa Xaa Asp Ile Xaa Phe Ile Xaa Thr Ile Xaa Xaa Ile  
 1 5 10 15

<210> 129  
 <211> 418  
 <212> DNA  
 <213> Conus stercusmuscarum

<400> 129  
 gcgatgcaac tgtacacgta tctgtatctg ctggtgcccc tggtagacctt ccacctaate 60  
 ctgggcacgg gcacactaga tcatggaggc gcaactgactg aacgccgttc ggctgacgcc 120

acagcgctga aacctgagcc tgtcctgcag aaatccgctg ccggcagcac cgacgacaac 180  
 ggcaaggaca ggttgactca gatgaagagg attctcaaaa agcgaggaaa cacggctaga 240  
 atcaccgaaa ctgatataga gcttggttatg aaattagaag aaattggaaa aagataatca 300  
 agctgggtgt tccacgtgac actcgtcagt tctgaagtcc cgaggtagat cgttccttat 360  
 ttttgccaca ttctttcttt ctcttttcat gtaattcccc aaatctttca tgtttatt 418

<210> 130  
 <211> 97  
 <212> PRT  
 <213> Conus stercusmuscarum

<400> 130  
 Met Gln Leu Tyr Thr Tyr Leu Tyr Leu Leu Val Pro Leu Val Thr Phe  
 1 5 10 15  
 His Leu Ile Leu Gly Thr Gly Thr Leu Asp His Gly Gly Ala Leu Thr  
 20 25 30  
 Glu Arg Arg Ser Ala Asp Ala Thr Ala Leu Lys Pro Glu Pro Val Leu  
 35 40 45  
 Gln Lys Ser Ala Ala Gly Ser Thr Asp Asp Asn Gly Lys Asp Arg Leu  
 50 55 60  
 Thr Gln Met Lys Arg Ile Leu Lys Lys Arg Gly Asn Thr Ala Arg Ile  
 65 70 75 80  
 Thr Glu Thr Asp Ile Glu Leu Val Met Lys Leu Glu Glu Ile Gly Lys  
 85 90 95

Arg

<210> 131  
 <211> 15  
 <212> PRT  
 <213> Conus stercusmuscarum

<220>  
 <221> PEPTIDE  
 <222> (1)..(15)  
 <223> Xaa at residues 3, 7, 13 and 14 is Glu or gamma-carboxy-Glu  
 <400> 131  
 Ile Thr Xaa Thr Asp Ile Xaa Leu Val Met Lys Leu Xaa Xaa Ile  
 1 5 10 15

<210> 132  
 <211> 17  
 <212> PRT  
 <213> Conus geographus

<220>  
 <221> PEPTIDE  
 <222> (1)..(17)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 132

20200507 09:26:00

Gly Glu Xaa Xaa Leu Gln Xaa Asn Gln Xaa Leu Ile Arg Xaa Lys Ser  
 1                      5                      10                      15

Asn

<210> 133  
 <211> 24  
 <212> PRT  
 <213> Conus ammiralis

<220>  
 <221> PEPTIDE  
 <222> (1)..(24)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 133

Glx Gly Gln Asp Asp Ser Glu Xaa Xaa Asp Ser Gln Lys Val Met Lys  
 1                      5                      10                      15

His Gly Gln Arg Arg Glu Arg Arg  
 20

<210> 134  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(17)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 134

Gly Gly Xaa Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Leu Thr  
 1                      5                      10                      15

Pro

<210> 135  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(17)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 135

Gly Gly Xaa Xaa Val Arg Xaa Ser Ala Xaa Thr Leu His Xaa Ile Thr  
 1                      5                      10                      15

Pro

<210> 136  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(17)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 136

Asp	Gly	Xaa	Xaa	Val	Arg	Xaa	Ala	Ala	Xaa	Thr	Leu	Asn	Xaa	Leu	Thr
1				5					10					15	

Pro

&lt;210&gt; 137

&lt;211&gt; 18

&lt;212&gt; PRT

&lt;213&gt; Conus betulinus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(18)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 137

Gly	Tyr	Xaa	Asp	Asp	Arg	Xaa	Ile	Ala	Xaa	Thr	Val	Arg	Xaa	Leu	Glu
1			5					10						15	

Glu Ala

&lt;210&gt; 138

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Conus betulinus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(17)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 138

Gly	Gly	Gly	Xaa	Val	Arg	Xaa	Ser	Ala	Xaa	Thr	Leu	His	Xaa	Ile	Thr
1				5					10					15	

Pro

&lt;210&gt; 139

&lt;211&gt; 18

&lt;212&gt; PRT

&lt;213&gt; Conus bullatus

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(18)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 139

Asn	Pro	Xaa	Thr	Tyr	Ile	Xaa	Ile	Val	Xaa	Ile	Ser	Arg	Xaa	Leu	Glu
1				5				10						15	

Glu Ile



<210> 140  
 <211> 20  
 <212> PRT  
 <213> Conus bullatus

<220>  
 <221> PEPTIDE  
 <222> (1)..(20)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 140

Asn Pro Xaa Thr Tyr Tyr Asn Leu Xaa Leu Val Xaa Ile Ser Arg Glu  
 1 5 10 15

Leu Glu Glu Ile  
 20

<210> 141  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 141

Ser Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Leu  
 1 5 10 15

Glu Arg Asn

<210> 142  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 142

Gly Asp Xaa Xaa Leu Leu Arg Xaa Asp Val Xaa Thr Val Leu Xaa Leu  
 1 5 10 15

Glu Arg Asp

<210> 143  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 143

Glu Arg Asn

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<220>
<221>  PEPTIDE
<222>  (1)..(17)
<223>  Xaa is Glu or gamma-carboxy-Glu
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Ser

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<220>
<221>  PEPTIDE
<222>  (1)..(15)
<223>  Xaa is Glu or gamma-carboxy-Glu

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<210> 146
<211> 29
<212> PRT
<213> Conus catus
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<220>
<221>  PEPTIDE
<222>  (1)..(29)
<223>  Xaa is Glu or gamma-carboxy-Glu

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<400> 146  
Gly Glu Pro Xaa Val Gly Ser Ile Pro Xaa Ala Val Arg Gln Gln Glu  
1 5 10 15

```
<210> 147
<211> 17
<212> PRT
<213> Conus distans
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<220>
<221> PEPTIDE
<222> (1)..(17)

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<223> Xaa is Glu or gamma-carboxy-Glu

<400> 147

Thr Ile Thr Ala Xaa Xaa Ala Xaa Arg Thr Ser Xaa Arg Met Ser Ser  
1 5 10 15

Met

<210> 148

<211> 19

<212> PRT

<213> Conus distans

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa is Glu or gamma-carboxy-Glu

<400> 148

Glx Glu Thr Pro Thr Pro Xaa Xaa Val Xaa Arg His Thr Xaa Arg Leu  
1 5 10 15

Lys Ser Met

<210> 149

<211> 15

<212> PRT

<213> Conus episcopatus

<220>

<221> PEPTIDE

<222> (1)..(15)

<223> Xaa is Glu or gamma-carboxy-Glu

<400> 149

Gly Gly Lys Asp Ile Val Xaa Thr Ile Thr Xaa Leu Xaa Lys Ile  
1 5 10 15

<210> 150

<211> 19

<212> PRT

<213> Conus figulinus

<220>

<221> PEPTIDE

<222> (1)..(19)

<223> Xaa is Glu or gamma-carboxy-Glu

<400> 150

Gly Glu Xaa Xaa Val Ala Xaa Met Ala Ala Xaa Ile Ala Arg Xaa Asn  
1 5 10 15

Gln Ala Asn

<210> 151

<211> 18

<212> PRT

<213> Conus figulinus

<220>

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<221> PEPTIDE  
 <222> (1)..(18)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 151  
 Ser Tyr Xaa Gln Ala Arg Xaa Val Gln Xaa Ala Val Asn Xaa Leu Lys  
 1 5 10 15

Glu Arg

<210> 152  
 <211> 34  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(34)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 152  
 Ser Tyr Xaa Gln Ala Arg Xaa Val Gln Xaa Ala Val Asn Xaa Leu Lys  
 1 5 10 15

Glu Arg Gly Lys Lys Ile Ile Met Leu Gly Val Pro Arg Asp Thr Arg  
 20 25 30

Gln Phe

<210> 153  
 <211> 18  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(18)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 153  
 Asp Tyr Xaa Asp Asp Arg Xaa Ile Ala Xaa Thr Val Arg Xaa Leu Glu  
 1 5 10 15

Glu Ile

<210> 154  
 <211> 19  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 154  
 Gly Asn Thr Ala Xaa Xaa Val Arg Xaa Ala Ala Xaa Thr Leu His Glu  
 1 5 10 15

Leu Ser Leu

<210> 155  
 <211> 23  
 <212> PRT  
 <213> Conus figulinus

<220>  
 <221> PEPTIDE  
 <222> (1)..(23)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 155  
 Gly Ser Ile Ser Met Gly Phe Xaa His Arg Arg Xaa Ile Ala Xaa Leu  
 1 5 10 15

Val Arg Glu Leu Ala Glu Ile  
 20

<210> 156  
 <211> 19  
 <212> PRT  
 <213> Conus lynceus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 156  
 Gly Glu Xaa Xaa Val Ala Lys Met Ala Ala Xaa Ile Ala Arg Xaa Asn  
 1 5 10 15

Ala Ala Asn

<210> 157  
 <211> 18  
 <212> PRT  
 <213> Conus lynceus

<220>  
 <221> PEPTIDE  
 <222> (1)..(18)  
 <223> Xaa is Glu or gamma-carboxy-Glu

<400> 157  
 Gly Lys Xaa Xaa Asp Arg Xaa Ile Val Xaa Thr Val Arg Xaa Leu Glu  
 1 5 10 15

Glu Ile

<210> 158  
 <211> 19  
 <212> PRT  
 <213> Conus lynceus

<220>  
 <221> PEPTIDE  
 <222> (1)..(19)  
 <223> Xaa is Glu or gamma-carboxy-Glu

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Gly Glu Xaa Xaa Val Ala Lys Met Ala Ala Xaa Leu Thr Arg Xaa Glu  
1 5 10 15

<210> 159

<212> PRT

<213> Conus purpurascens

 $\langle 220 \rangle$ 

<221> PEPTIDE

<222> (1) . . (24)

<223> Xaa is Glu or gamma-carboxy-Glu

Gly Glu Xaa Xaa His Ser Lys Tyr Gln Xaa Cys Leu Arg Xaa Val Arg  
1 5 10 15

Val Asn Lys Val Gln Gln Glu Cys  
20

<210> 160

<211> 24

<212> PRT

<213> Conus purpurascens

 $\langle 220 \rangle$ 

<221> PEPTIDE

<222>      (1) . . (24)

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<223> Xaa is Glu or gamma-carboxy-Glu
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<400> 160

Gly Glu Xaa Xaa His Ser Lys Tyr Gln Xaa Cys Leu Arg Xaa Val Arg  
1 5 10 15

Val Asn Asn Val Gln Gln Glu Cys  
20

<210> 161

<211> 24

<212> PRT

<213> *Conus purpurascens*

 $\langle 220 \rangle$ 

&lt;221&gt; PEPTIDE

 $\langle 222 \rangle \quad (1) \dots (24)$ 

<223> Xaa is Glu or gamma-carboxy-Glu

<400> 161

Gly Glu Xaa Xaa His Ser Lys Tyr Gln Xaa Cys Leu Arg Xaa Ile Arg  
1 5 10 15

Val Asn Lys Val Gln Gln Glu Cys  
20

<210> 162

<211> 24

<212> PRT

<213> Conus purpurascens

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(24)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 162

Gly Glu Ala Xaa His Tyr Ala Phe Gln Xaa Cys Leu Arg Xaa Ile Asn  
 1 5 10 15

Val Asn Lys Val Gln Gln Glu Cys  
 20

&lt;210&gt; 163

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Conus purpurascens

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(15)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 163

Gly Leu Xaa Xaa Asp Ile Xaa Phe Ile Xaa Thr Ile Xaa Glu Ile  
 1 5 10 15

&lt;210&gt; 164

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Conus stercusmuscarum

&lt;220&gt;

&lt;221&gt; PEPTIDE

&lt;222&gt; (1)..(15)

&lt;223&gt; Xaa is Glu or gamma-carboxy-Glu

&lt;400&gt; 164

Ile Thr Xaa Thr Asp Ile Xaa Leu Val Met Lys Leu Xaa Glu Ile  
 1 5 10 15

&lt;210&gt; 165

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Conus ammiralis

&lt;400&gt; 165

Glx Gly Gln Asp Asp Ser Glu Glu Glu Asp Ser Gln Lys Val Met Lys  
 1 5 10 15

His Gly Gln Arg Arg Glu Arg Arg  
 20

&lt;210&gt; 166

&lt;211&gt; 17

&lt;212&gt; PRT

&lt;213&gt; Conus betulinus

&lt;400&gt; 166

Gly Gly Glu Glu Val Arg Glu Ser Ala Glu Thr Leu His Glu Leu Thr

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1 5 10 15

Pro

<210> 167  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

<400> 167  
 Gly Gly Glu Glu Val Arg Glu Ser Ala Glu Thr Leu His Glu Ile Thr  
 1 5 10 15

Pro

<210> 168  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

<400> 168  
 Asp Gly Glu Glu Val Arg Glu Ala Ala Glu Thr Leu Asn Glu Leu Thr  
 1 5 10 15

Pro

<210> 169  
 <211> 18  
 <212> PRT  
 <213> Conus betulinus

<400> 169  
 Gly Tyr Glu Asp Asp Arg Glu Ile Ala Glu Thr Val Arg Glu Leu Glu  
 1 5 10 15

Glu Ala

<210> 170  
 <211> 17  
 <212> PRT  
 <213> Conus betulinus

<400> 170  
 Gly Gly Gly Glu Val Arg Glu Ser Ala Glu Thr Leu His Glu Ile Thr  
 1 5 10 15

Pro

<210> 171  
 <211> 18  
 <212> PRT  
 <213> Conus bullatus

<400> 171  
 Asn Pro Glu Thr Tyr Ile Glu Ile Val Glu Ile Ser Arg Glu Leu Glu  
 1 5 10 15

Glu Ile

<210> 172

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<211> 20  
 <212> PRT  
 <213> Conus bullatus

<400> 172  
 Asn Pro Glu Thr Tyr Tyr Asn Leu Glu Leu Val Glu Ile Ser Arg Glu  
 1 5 10 15  
 Leu Glu Glu Ile  
 20

<210> 173  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<400> 173  
 Ser Asp Glu Glu Leu Leu Arg Glu Asp Val Glu Thr Val Leu Glu Leu  
 1 5 10 15

Glu Arg Asn

<210> 174  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<400> 174  
 Gly Asp Glu Glu Leu Leu Arg Glu Asp Val Glu Thr Val Leu Glu Leu  
 1 5 10 15

Glu Arg Asp

<210> 175  
 <211> 19  
 <212> PRT  
 <213> Conus catus

<400> 175  
 Ser Asp Glu Glu Leu Leu Arg Glu Asp Val Glu Thr Val Leu Glu Pro  
 1 5 10 15

Glu Arg Asn

<210> 176  
 <211> 17  
 <212> PRT  
 <213> Conus catus

<400> 176  
 Ile Glu Glu Gly Leu Ile Glu Asp Leu Glu Thr Ala Arg Glu Arg Asp  
 1 5 10 15

Ser

<210> 177  
 <211> 17  
 <212> PRT  
 <213> Conus catus

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&lt;400&gt; 177

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Ser

&lt;210&gt; 178

&lt;211&gt; 29

&lt;212&gt; PRT

&lt;213&gt; Conus catus

&lt;400&gt; 178

Gly Glu Pro Glu Val Gly Ser Ile Pro Glu Ala Val Arg Gln Gln Glu  
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Cys Ile Arg Asn Asn Asn Asn Arg Pro Trp Cys Pro Lys  
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&lt;210&gt; 179

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Conus distans

&lt;400&gt; 179

Thr Ile Thr Ala Glu Glu Ala Glu Arg Thr Ser Met Ser Ser Met  
 1 5 10 15

&lt;210&gt; 180

&lt;211&gt; 19

&lt;212&gt; PRT

&lt;213&gt; Conus distans

&lt;400&gt; 180

Glx Glu Thr Pro Thr Pro Glu Glu Val Glu Arg His Thr Glu Arg Leu  
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Lys Ser Met

&lt;210&gt; 181

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Conus episcopatus

&lt;400&gt; 181

Gly Gly Lys Asp Ile Val Glu Thr Ile Thr Glu Leu Glu Lys Ile  
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&lt;210&gt; 182

&lt;211&gt; 19

&lt;212&gt; PRT

&lt;213&gt; Conus figulinus

&lt;400&gt; 182

Gly Glu Glu Glu Val Ala Glu Met Ala Ala Glu Ile Ala Arg Glu Asn  
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Gln Ala Asn

&lt;210&gt; 183

&lt;211&gt; 18

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Glu Arg

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Gln Phe

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Glu Ile

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Leu Ser Leu

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Val Arg Glu Leu Ala Glu Ile  
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<210> 188  
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<213> Conus lynceus

<400> 188

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Ala Ala Asn

<210> 189

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<213> Conus lynceus

<400> 189

Gly Lys Glu Glu Asp Arg Glu Ile Val Glu Thr Val Arg Glu Leu Glu  
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Glu Ile

<210> 190

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<213> Conus lynceus

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Ala Val Lys

<210> 191

<211> 24

<212> PRT

<213> Conus purpurascens

<400> 191

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Val Asn Lys Val Gln Gln Glu Cys  
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<210> 192

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Val Asn Asn Val Gln Gln Glu Cys  
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